

REMARKS

Claims 1-6 and claims 17-30, as amended, are presented herewith for the Examiner's review and consideration.

The claims were amended to further define the invention. In particular, the claims were amended to recite that the invention is an agricultural soil treating agent, as supported by, e.g., paragraph 20 of the published application. This amendment makes it clear that the invention is not directed to any composition or solution or to an intended use of such a composition or solution. Also, no new matter has been introduced by these claim changes, so that they should be entered at this time to reduce issues for appeal by placing the entire application in condition for allowance.

The allowance or allowability of claims directed to the combination of the agrochemical principle and active compounds is noted with appreciation. For the reasons that follow, it is believed that claims 6 and 17 do not need to be re-written in independent form.

Claims 1- 5, 18 and 19 were rejected as being obvious over Brown US patent 2,905,562. Applicants traverse the rejection.

Brown discloses a process for rendering masonry water repellant by treating the surfaces of such masonry with a mixture of an aqueous solution of an alkali metal silicate and an alkali metal siliconate. Brown is simply concerned with treating the surface of a solid substrate, in this case masonry, with a mixture that renders it water repellant. There is no disclosure of an agricultural soil treating agent in that patent, nor is there any suggestion of the benefits that can be obtained from the use of such a solution. Thus, Brown is irrelevant to the presently claimed invention.

As noted above, the present claims are specifically directed to an agricultural soil treating agent, rather than to a composition or solution in general. This agent comprises an aqueous mixture of a C1 to C4 alkyl siliconate compound and a silicate compound, where the compounds are present at a molar ratio of silicate compound to siliconate compound of 0.5/1 to 10/1. The compounds are present in an amount effective to increase hydrophobicity of the soil after the solution is applied thereto due to the formation of silicic acid or silica gel therein in order to reduce water evaporation from the treated soil. The present amendments to claim 1 now make it clear that the invention is directed to a particular agricultural soil treating agent rather than to general compositions or solutions for treating substrates and instead are focused on the preferred agents for treating soil for assisting in the growth of plants or crops.

Applicants submit that the claim preamble is a structural limitation that defines the invention. Section 2111.02 of the MPEP provides guidance in this area. That section teaches that preamble statements reciting purpose or intended use that do not amount to structural limitations of the invention when they are those of the type that say, e.g., "a core member for hair curlers" (*In re Otto*, 312 F.2d 937 (CCPA 1963)), "a spout for . . . dispensing oil from an oil can" (*In re Schreiber*, 128 F.3d 1473 (Fed Cir 1997)) and "[a stick head] which provides improved playing and handling characteristics" (*STX LLC v. Brine*, 211 F.3d 588 (Fed. Cir 2000)). The present claim language has no such statement of intended purpose. Instead, the claim recites that the invention is a agricultural soil treating agent, i.e., a recitation of what the invention is rather than how it could be used. The Examiner has not cited, and the applicants are not aware, of any reference that discloses or suggests agricultural soil treating agents that would be material to the patentability of these claims, and the disclosure of solutions in references such as the Brown patent are non-analogous art to the present claims.

As there is no teaching in Brown or any other reference of agricultural soil treating agents of the presently claims compounds, this rejection is inapplicable to the present claims. Furthermore, the present claims provide unexpected results when the claimed agricultural soil treating agent is applied to soil. When so applied, the presently claimed agent enables increased quantities of crops to be prepared using the same amount of water that has been used in the past, or the same level of crop production using much less water than in the past. This soil treating agent provides the unexpected advantage of enabling crop production to successfully be accomplished in arid or hot climates, as it can conserve or reduce the demand for water in any crop-growing situation. While it is known that the application of general hydrophobing agents on an arid soil permits a substantial economy of water because the treated surface presents an efficient barrier against the evaporation of irrigation water, the present solution provides improvements both as to how much water is needed to apply such solutions as well as to the concentration of the active compounds in the solution. It surprisingly has been found that the use of the presently claimed aqueous mixtures of the silicate and siliconate compounds induce, for the same depth of hydrophobing treatment, a protection against evaporation that is increased over that of the hydrophobic effect induced by siliconates alone. For the most preferred mixtures, the increase is more than double that of the siliconate alone. This phenomenon is explained by the fact that silicate, exposed to the ambient atmosphere, transforms into silicic acid (silica gel) which contributes markedly by steric hindrance, on co-application with methylsiliconate, to the desired effect of reducing

evaporation. Furthermore, the substitution of a significant part of the costly siliconate by silicate permits a reduction of the amount of water needed for application by a factor of 2 and the quantity of the hydrophobing agent needed by a factor of 4, for a treatment offering the same evaporation protection. The cost of the treatment is thus reduced by a factor of about 3 to 4. In addition, the treatment is facilitated by the unexpected reduction in the volume of water needed for application. These features provide unexpected results for the presently claimed agricultural soil treating agent that support the patentability of the present claims.

In view of the above, all rejections based on the Brown patent have been overcome and should be withdrawn. Accordingly, the entire application is now in condition for allowance, early notice of which would be appreciated. Should the Examiner not agree that all claims are patentable, then a personal or telephonic interview is respectfully requested to discuss any remaining issues in order to expedite the eventual allowance of this application.

Respectfully submitted,

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